

## Key Stage 2 YEAR 6 DESIGN AND TECHNOLOGY

National Curriculum KS2 Programme of Study	Chris Quigley Essential Skills Milestone 3	
<p>Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts <i>for example, the home, school, leisure, culture, enterprise, industry and the wider environment.</i></p> <p>When designing and making, pupils should be taught to:</p> <p><b>Design</b></p> <ul style="list-style-type: none"> <li>use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups</li> <li>generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</li> </ul> <p><b>Make</b></p> <ul style="list-style-type: none"> <li>select from and use a wider range of tools and equipment to perform practical tasks [<i>for example, cutting, shaping, joining and finishing</i>], accurately</li> <li>select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities</li> </ul> <p><b>Evaluate</b></p> <ul style="list-style-type: none"> <li>investigate and analyse a range of existing products</li> <li>evaluate their ideas and products against their own design criteria and consider the views of others to improve work</li> </ul>	<p><b>1. To master practical skills</b> <b><u>Food</u></b></p>	<ul style="list-style-type: none"> <li>Understand the importance of correct storage and handling of ingredients (<i>using knowledge of micro-organisms</i>).</li> <li>Measure accurately and calculate ratios of ingredients to scale up or down from a recipe.</li> <li>Demonstrate a range of baking and cooking techniques.</li> <li>Create and refine recipes, including ingredients, methods, cooking times and temperatures.</li> </ul>
	<p><b>1.To master practical skills</b> <b><u>Materials</u></b></p>	<ul style="list-style-type: none"> <li>Cut materials with precision and refine the finish with appropriate tools (<i>such as sanding wood after cutting or a more precise scissor cut after roughly cutting out a shape</i>).</li> <li>Show an understanding of the qualities of materials to choose appropriate tools to cut and shape (<i>such as the nature of fabric may require sharper scissors than would be used to cut paper</i>).</li> </ul>
	<p><b>1.To master practical skills</b> <b><u>Electricals and Electronics</u></b></p>	<ul style="list-style-type: none"> <li>Create circuits using electronics kits that employ a number of components (<i>such as LEDs, resistors, transistors and chips</i>).</li> </ul>
	<p><b>1. To master practical skills</b> <b><u>Computing</u></b></p>	<ul style="list-style-type: none"> <li>Write code to control and monitor models or products.</li> </ul>

<ul style="list-style-type: none"> <li>• understand how key events and individuals in D+T have helped shape the world</li> </ul> <p><b>Technical knowledge</b></p> <ul style="list-style-type: none"> <li>• apply their understanding of how to strengthen, stiffen and reinforce more complex structures</li> <li>• understand and use mechanical systems in their products <i>[for example, gears, pulleys, cams, levers and linkages]</i></li> <li>• understand and use electrical systems in their products <i>[for example, series circuits incorporating switches, bulbs, buzzers and motors]</i></li> <li>• apply their understanding of computing to program, monitor and control their products.</li> </ul> <p><b>Cooking and nutrition</b></p> <p>As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.</p> <p>Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• understand and apply the principles of a healthy and varied diet</li> <li>• prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques</li> <li>• understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.</li> </ul>	<p><b>2. To design, make, evaluate and improve</b></p>	<ul style="list-style-type: none"> <li>• Design with the user in mind, motivated by the service a product will offer <i>(rather than simply for profit)</i></li> <li>• Make products through stages of prototypes</li> <li>• Making continual refinements</li> <li>• Ensure products have a high quality finish, using art skills where appropriate.</li> <li>• Use prototypes, cross-sectional diagrams and computer aided designs to represent designs.</li> </ul>
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